



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,522	06/21/2001	Hans Artmann	10191/1894	6400
7590 08/25/2004 KENYON & KENYON One Broadway New York, NY 10004			EXAMINER CHEVALIER, ALICIA ANN	
			ART UNIT 1772	PAPER NUMBER
DATE MAILED: 08/25/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/886,522

Applicant(s)

ARTMANN ET AL.

Examiner

Alicia Chevalier

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

RESPONSE TO AMENDMENT

1. Claims 1-8 and 10-15 are pending in the application. Claims 9 and 16-24 have been cancelled.
2. Amendments to the claims, filed on May 17, 2004, have been entered in the above-identified application.

WITHDRAWN REJECTIONS

3. The 35 U.S.C. §102 rejection of claims 1-8, 10 and 13-15 over Guckel et al. (US Patent No. 4,897,360), made of record in paper #15, mailed January 14, 2004, pages 3-4, paragraph #8 has been withdrawn due to Applicant's amendment in the response filed May 17, 2004.
4. The 35 U.S.C. §103 rejection of claims 11 and 12 as over Guckel, made of record in paper #15, pages 4-5, paragraph #9 has been withdrawn due to Applicant's amendment in the response filed May 17, 2004.

NEW REJECTIONS

5. **The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.**

Claim Rejections - 35 USC § 102

6. Claims 1-8 and 10-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujii et al. (U.S. Patent No. 4,975,390).

Regarding Applicant's claim 1, Fujii discloses a micromechanical component (*semiconductor pressure sensor, title*) comprising a supporting body (*silicone substrate, col. 10, lines 18-19*), at least one at least partially unsupported membrane (*silicon oxide film, col. 10, lines 22-23*) connected to the supporting body (*figure 10d*), and at least one stabilizing element (*piezoresistive layer, col. 10, line 25*).

The at least one stabilizing element is provided in an unsupported area on some areas of a surface of the at least one membrane, wherein the at least one membrane extends continuous over an entire recess etched in the supporting body, and a portion of the at least one stabilizing element contacts only the membrane for a part less than a whole length of the recess of the membrane and a portion of the at least one stabilizing element is positioned between the supporting body and the at least one membrane and wherein at least a part of the stabilizing element is exposed to the recess etched in the supporting body (*col. 10, lines 15-38 and figure 10d*).

Regarding Applicant's claim 2, Fujii discloses that the micromechanical component is a sensor element, since the reference discloses that the component is a semiconductor pressure sensor (*title and col. 10, line 37*).

Regarding Applicant's claims 3 and 4, the limitations "the at least one stabilizing element is configured to counteract a deformation of the at least one membrane" and "the deformation includes ..." are functional limitations and is deemed to be a latent property of the prior art since the prior art is substantially identical in composition and/or structure. MPEP § 2145 (II).

Regarding Applicant's claim 5, Fujii discloses that the at least one stabilizing element includes one of a web, a plurality of webs, parallel webs, an arrangement of webs configured in a

Art Unit: 1772

mesh, an arrangement of webs configured in a grid, a web designed as a ring, a plurality of webs designed in concentric rings, and a stabilizing area designed in the shape of one of a tongue and a rod, since the reference teaches a piezoresistive layer, i.e. web (*col. 10, line 25*).

Regarding Applicant's claim 6, Fujii discloses that the at least one stabilizing element includes at least one of a ring-shaped skirt arranged around one of recesses and etching holes in the at least one membrane and a stabilizing surface in corner areas of the at least one membrane, since the reference figure 10d shows that the piezoresistive layer are in the corner areas of the silicon oxide film.

Regarding Applicant's claim 7, Fujii discloses that the at least one stabilizing element is arranged on one side of the at least one membrane facing the supporting body (*figure 10d*).

Regarding Applicant's claim 8, Fujii discloses that the at least one stabilizing element is in direct contact with the at least one membrane and is bonded thereto in at least some areas in the unsupported area (*figure 10d*).

Regarding Applicant's claim 10, Fujii discloses that the supporting body includes a silicon body (*silicone substrate, col. 10, lines 18-19*).

Regarding Applicant's claim 11, Fujii discloses that the at least one membrane includes a silicon compound and has a thickness of 10 nm to 10 μ m, since the reference teaches that the silicon oxide film has a thickness of 1,000 to 2,000 Å (*col. 8, lines 56-57*), which is equivalent to 100-200 nm.

Regarding Applicant's claim 12, Fujii discloses that the silicon compound includes one of a silicon nitride layer, a silicon carbide layer, and a silicon dioxide layer, since the reference teaches that the silicon oxide films of Fujii's invention are silicon dioxide (*col. 4, line 64*).

Regarding Applicant's claims 13 and 14, it is well known that micromechanical semiconductor pressure sensors contain circuit structures with sensitive components. Therefore, the limitations of claims 13 and 14 are inherent in the Fujii's micromechanical semiconductor pressure sensor.

Regarding Applicant's claim 15, Fujii discloses that the thickness of the at least one stabilizing element is between 10 nm and 5 μm , since the reference teaches that the diaphragm has a thickness of 1 to 5 μm (*col. 11, lines 36-37*). The diaphragm comprising the piezoresistive layer and the silicon oxide layer, therefore the piezoresistive layer has a thickness between 0 and 5 μm .

ANSWERS TO APPLICANT'S ARGUMENTS

7. Applicant's arguments in the response filed May 17, 2004 regarding the 35 U.S.C. §102 and §103 rejections over Guckel of record have been considered but are moot since the rejections have been withdrawn.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 1772

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Chevalier whose telephone number is (571) 272-1490. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ac

8/17/04


HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

8/18/04